

Progress Report Documentation

For

Memphis Area

June 30, 2003 Early Action Compact Progress Report
Memphis Metropolitan Statistical Area
MEMPHIS & SHELBY COUNTY and CRITTENDEN COUNTY COMPONENTS
Prepared by Diane L. Arnst, Technical Manager
Pollution Control Section, Memphis & Shelby County Health Department

[Separate Reports May Be Submitted by Fayette County and Tipton County,
Tennessee; and by DeSoto County, Mississippi]

Progress in Stakeholder Development Process

Roles and Responsibilities: While this is evolving, the Memphis & Shelby County Health Department, 814 Jefferson Avenue, Memphis, TN 38105 currently serves as the coordinating body for regional meetings on the EAC and Diane Arnst, Technical Manager of the Pollution Control Section is the lead contact for communications related thereto. The Health Department will forward information to the other stakeholders. Carter Gray, Administrator, Memphis-Shelby/DeSoto Metropolitan Planning Organization, 1150 Mullins Station Road, Memphis, TN 38134 is the other key government organization contact involved for the Tennessee counties in the Memphis Metropolitan Statistical Area. The Memphis Regional Chamber of Commerce is a key contact for industry.

Eddie Brawley at the West Memphis Metropolitan Planning Organization, 796 West Broadway, West Memphis, AR 72301 and Becky Keogh, Deputy Director, and Tony Davis, Arkansas Department of Environmental Quality, 8001 National Drive, Little Rock, AR 72219-8913 are the primary Arkansas organization contacts.

Jim McDougal, DeSoto County Planning, 365 Loshier, Hernando, MS 38635 and Dwight Wylie, Mississippi Department of Environmental Quality, 101 W. Capitol, Jackson, MS 39201 are the primary Mississippi organization contacts.

Lists of Stakeholders See attached lists

Stakeholder Meetings and Conference Calls Held To Date:

| | |
|-----------|---|
| 12/04/02 | Tennessee Air Pollution Control Board conference call with Local Air Programs and MPOs |
| 12/5-6/02 | Tennessee Air Pollution Control Board Meeting in Nashville concerning Early Action Compacts; attended by West Memphis MPO representative |
| 12/10/02 | Explanation of EAC process in advance of signature of Compact at Memphis-Shelby/DeSoto MPO Executive Board Meeting 75 attendees including City of Memphis Mayor Herenton Shelby County Mayor Wharton TDOT Commissioner Nicely |

| | |
|----------|--|
| 12/12/02 | West Memphis MPO representative met with Arkansas DEQ, Crittenden County Judge Melton Holt, Marion AR Mayor Frank Fogelman, and West Memphis, AR Mayor William H. Johnson; agreement to enter Early Action Compact |
| 12/16/02 | Marion, AR Mayor Fogelman forwarded letters of support from local officials to West Memphis MPO representative |
| 12/17/02 | West Memphis AR MPO representative attended Crittenden County Quorum Court meeting authorized Judge Holt to enter Early Action Compact; letter signed by Judge Holt |
| 12/19/02 | West Memphis AR MPO representative attended West Memphis AR City Council Meeting; City Council authorized Mayor to enter Early Action Compact |
| 12/20/02 | West Memphis AR Mayor signed letter to enter Early Action Compact; letter sent to EPA Regions IV and VI, Mississippi DEQ, Arkansas DEQ, and Tennessee DEC |
| 2/20/03 | Memphis-Shelby/DeSoto MPO Engineering and Technical Committee meeting |
| 2/24/03 | West Memphis MPO Citizens Advisory Committee meeting to discuss Early Action Compact control measure options |
| 3/3-4/03 | Tennessee Air Pollution Control Board meeting concerning Early Action Compacts; attended by West Memphis MPO representative |
| 3/13/03 | Memphis-Shelby/DeSoto MPO Executive Board Meeting |
| 3/20/03 | West Memphis MPO Policy Committee Meeting; established Crittenden County Air Quality Committee; Eddie Brawley MPO Study Director is Coordinator |
| 4/14/03 | Federal Highway Administration Roundtable on Transportation Control Measures and Early Action Compact, Knoxville, TN, for TN Early Action Compact representatives; The University of Tennessee Department of Civil and Environmental Engineering distributed its DRAFT REPORT "Emission Inventories and Potential Emission Control Strategies for Ozone Early Action Compact Areas in Tennessee" dated April 13, 2003. |
| 5/7/03 | Crittenden County Air Quality Committee meeting to recommend 12 control measures for June 16 th List |
| 5/14/04 | Memphis-Shelby County Health Department regional stakeholders meeting at Central Library 3030 Poplar to consider and winnow list of 46 possible control strategies for June 16 th list; Crittenden County AR List was distributed. Over 100 attendees representing regulated businesses including Federal Express, TVA Allen Steam Plant, |

MLG&W, Lion Oil, and Premcor Refining, Inc.; Memphis Regional Chamber of Commerce; Sierra Club, Arkansas Department of Environmental Quality, Mississippi Department of Environmental Quality, Tennessee Department of Environment and Conservation, Shelby County TN, DeSoto County MS, Crittenden County AR, U.S. EPA, Memphis and other municipalities, the media, West Memphis MPO, Memphis-Shelby/DeSoto MPO; Fayette County and Tipton County representatives were also invited

5/22/03 Arkansas DEQ held a Public Forum on Air Quality at West Memphis City Hall; Crittenden County List of Control Measures Under Serious Consideration was presented

5/29/03 Memphis-Shelby/DeSoto MPO Clean Air Committee and Regional Advisory Board Meetings
Approximately 35 attendees. Voted to recommend Criteria for Surface Transportation Project evaluation and for Congestion Mitigation and Air Quality Improvement project evaluation for presentation to MPO Executive Board. Priority ranking for projects that advance 8-hour ozone attainment and EAC milestones.

5/30/03 Meeting at TVA Allen Steam Plant to discuss feasibility of, timing, cost and expected NOx reductions from Strategy 11 and Strategy 46 on the 5/14/03 strategies list.

6/05/03 Memphis-Shelby/DeSoto MPO Executive Board Meeting, with Eddie Brawley of West Memphis MPO in attendance, adopted the revised Criteria for SP funds and for CMAQ funds

6/5/03 Conference call between Mississippi DEQ and Memphis & Shelby County Health Department on List development

6/09/03 Adjoining County Stakeholders meeting on emissions reduction strategies;
Memphis & Shelby County Health Department meeting with Premcor on emissions reduction fuel strategies and fuel supply to MSA counties and Haywood County

6/10/03 Memphis & Shelby County Health Department meeting with ExxonMobil on emissions reduction fuel strategies and fuel supply to MSA counties and Haywood County

6/11/03 Memphis & Shelby County Health Department meeting with MLG&W on energy efficiency and fleet strategies

6/18/03 Memphis & Shelby County Health Department meeting with Lion Oil on emissions reduction fuel strategies and fuel supply to MSA counties and Haywood County

Early July Meeting with Airport Authority, Federal Express, Delta, Northwest, and other carriers to discuss emission reduction strategies related to airport operations

Dwight Wylie has expressed his intent to submit a separate discussion of Stakeholder Meetings in DeSoto County.

Do

01/10/20

01/27/20

Progress in Emission Reduction Measure Selection

West Memphis, Arkansas MPO submitted a list to Barry Stephens, TDEC, of about a dozen strategies under serious consideration for implementation within Crittenden County. **Idling Emission Reductions:** Petro Stopping Center will complete installation of IdleAire equipment on 41 parking truckspaces by June 30, 2003. **Estimated emission reductions: 16 TPY NOx [.04 Tons Per Day].**

Dwight Wylie has expressed his intent to submit a separate discussion of Progress in Emission Reduction Measure Selection in DeSoto County.

NOx reductions of 2,200 TPY from Clean Air Act Title IV Acid Rain allowable emissions resulting from the installation of Selective Catalytic Reduction on the third EGU at TVA's Allen Steam Plant achieved beginning in May, 2003 (NOx SIP Call) may be significantly offset by NOx emissions from two new natural gas peaking power plants to come on-line in DeSoto County in 2003. Permitted emissions from these two plants total 1,150 TPY NOx. Both were built pursuant to PSD permits and have installed NOx BACT--Dry Low NOx Combustion with Selective Catalytic Reduction at one plant and Dry Low NOx Combustion at the other, resulting in an emission rate at each new plant of about .08 lb/MMBTU.

Stakeholder comments were accepted at the 5/14/03 meeting and by electronic and U.S. mail thereafter. Followup meetings were held as noted above.

Control options were presented in a comment letter submitted by a natural gas pipeline company (**Texas Gas Transmission, L.L.C.**) concerning compressor engine emissions reductions of NOx. This company committed orally to achieve combined annual average NOx reductions during ozone season beginning in 2004, quantified in writing, of **149 TPY at eight (8) engines in Tipton County TN [0.7 tons per day]** and additional reductions in an adjoining county. This is the only significant stationary source of NOx in Tipton County, according to available emission inventory information.

TVA is to provide Health Department with cost per ton reduced information on Fogging of large and small combustion turbines; Wet Injection of combustion turbines; and operating Selective Catalytic Reduction on EGUs covered by NOx SIP Call during April and October on Ozone Action Days as soon as possible. The Health Department polled the Operations Committee of ATMOS to obtain authorization for SAI, Inc. to provide data files of first episode modeled to Larry Gautney, TVA, to model emissions impacts of Fogging; Wet Injection; and SCR during April and October before TVA commits to any strategies for Early Action Compact.

ExxonMobil representatives informed the Memphis & Shelby County Health Department that its gasoline is barged in from its Baton Rouge refinery, and **beginning January 1, 2004, the gasoline it supplies will meet Tier II sulfur reduction requirements.** ExxonMobil is to provide the Health Department with

information about the Reid Vapor Pressure and the number of gallons it supplies, by county, by month during ozone season, to the Memphis MSA. The Health Department will then quantify expected emissions reductions.

Lion Oil representatives agreed to provide the Health Department with information about the Reid Vapor Pressure and the number of gallons it supplies, by county, by month during ozone season, to the Memphis MSA. The Health Department will then quantify expected emissions reductions.

The Memphis & Shelby County Health Department drafted the Shelby County Component of the June 16th List of Control Measures Being considered for Early Action Compact for Memphis Metropolitan Statistical Area that has been submitted under separate cover. Separate Lists were submitted by DeSoto County, MS; Crittenden County, AR; Fayette County and Tipton County, TN.

Additional stakeholder meetings will be held to determine the overall control strategy. The Memphis & Shelby County Health Department is also working on the Draft Planning Area Boundaries recommendation letter evaluating eleven (11) factors, to assist the Governors in their recommendations. At this preliminary stage, it appears that further emission reductions in Tipton and Fayette Counties could best be achieved through the transportation fuel supply to those counties rather than from stationary sources located in those counties.

Public Outreach Activities

The *Commercial Appeal* has published the following articles and editorials:
December 28, 2002 editorial "Air Cleanup Needs a Metro Approach"
January 11, 2003 page one article "City Sees Way Out of Smog, Rules—a Proactive Region"
January 18, 2003 editorial in support of regional Early Action Compact
April 24, 2003 DeSoto Appeal "County Working Toward Cleaner Air"
May 10, 2003 DeSoto Appeal "Voluntary Plan Sought For Cleaner Air—"Can't Stick Heads In the Sand" DEQ Official Says"
May 11, 2003 "As EPA Deadline Looms, City Devises Clean-Air Strategy"
May 16, 2003 editorial "Tough Choices Ahead on Ozone"
June 12, 2003 article entitled "Lot Hookups Save Fuel, Money, Environment" on idling reductions at Petro Stopping Center in West Memphis, an EAC strategy
June 16, 2002 article entitled "Cleaner Gasoline—Cleaner Air?", subtitled "EPA to get draft today"

The *Evening Times* in Crittenden County published an article about Air Quality Committee's recommended EAC control measures

The Health Department advertised the May 14th stakeholder meeting in the *Commercial Appeal* on April 27, 2003 and sent announcements to over 400 persons throughout the Metropolitan Statistical Area. DeSoto County and the West Memphis MPO also notified their members.

Information about the Early Action Compact is on two websites:

www.state.tn.us/environmental/apc/eac and

www.co.shelby.tn.us/county_gov/divisions/health_serv/enviro_n_health/air_pollution/index.htm

Modeling and Technical Activities

SAI, Inc. the contractor for the Arkansas-Tennessee-Mississippi Ozone Study has selected a second 8-hour ozone exceedance episode for modeling (June 16-22, 2001) using EPA-approved models. Brenda Johnson, EPA Region IV, has participated in ATMOS meetings and served as a resource as modeling issues have been discussed by the ATMOS Technical Committee. A 12-day episode in 1999 has been modeled. SAI, Inc. is currently modeling a second 7-day episode in 2001. SAI, Inc. has asked for emissions inventory changes by the end of June, 2003, from all ATMOS participants for completion of modeling of the second episode.

BRS
CC VLL
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MMC

*Please join Arkansas, Mississippi, and Tennessee in a Regional Effort to Improve
Air Quality
for the*

Memphis Metropolitan Statistical Area
EARLY ACTION COMPACT MEETING

May 14, 2003

1:30 P.M. Central Daylight Time

Memphis and Shelby County Public Library
3030 Poplar, Memphis, TN 38112
Meeting Rooms B and C

You have been identified as a stakeholder in the effort to attain the 8-hour ozone standard to protect public health no later than December 31, 2007. If we succeed, we could attain the new chronic exposure national public health standard for ozone at the earliest opportunity. We could also defer designation to nonattainment status and thereby avoid the requirement for Lowest Achievable Emissions Reduction (LAER) technology regardless of cost and defer emissions offsets requirements. It will be a challenge—Shelby County, Haywood County, and DeSoto County experienced the first 8-hour ozone exceedances of 2003 on April 13th [not yet quality assured].

According to experts, additional reductions of Volatile Organic Compounds (VOCs) in urban areas reduce ozone formation. In the southeastern United States, reductions of Nitrogen Oxides (NOx) do the most to reduce ozone formation.

A list of Control Strategy Options is enclosed to help you prepare for the meeting. This list came from the State Implementation Plan Innovations Conference in Washington, D.C. in March and the Transportation Control Measures Workshop in Tennessee in April. The next Early Action Compact milestone is fast approaching, and ***we need your help*** to narrow down the list.

MILESTONE 2: Deadline for submittal to U.S. EPA June 16, 2003

Identify and Describe Local Control Measures Being
Considered

**MILESTONE 3: Deadline for Initial Progress Report submittal to U.S.
EPA June 23, 2003**

Please bring the enclosures with you to the meeting. Come prepared to discuss the pros and cons of the strategies and suggest any others that come to mind that can be implemented by May 1, 2005—the start of Ozone Season 2005. Carpool, take the bus, bicycle, walk, or drive a Low Emission Vehicle if you can! R.S.V.P. by 4:30 P.M. May 9th to Dottie Dulin (901)544-7775.

1:30 P.M. May 14, 2003
EARLY ACTION COMPACT MEETING AGENDA

- 1:30 P.M. Welcome and Logistics
Carol Tsagarakis, Chairman
Memphis and Shelby County Air Pollution Control Board and
Yvonne Madlock, Director
Memphis and Shelby County Health Department
- 1:40 P.M. Planning Area Profile and 8-Hour Ozone Levels 2000-2002
Early Action Compact Planning Process and Major Milestones
1999 Emissions for Memphis Metropolitan Area
Projected 2007 Emissions for Memphis Metropolitan Area
Barry Stephens, Technical Secretary
Tennessee Air Pollution Control Board and
Diane L. Arnst, Technical Manager, Pollution Control Section
Memphis and Shelby County Health Department
- 2:00 P.M. EPA Region IV Episodic Release Reduction Initiative
Doug Deason, Exxon Mobil Chemical Company
- 2:15 P.M. Ozone Action Plan, Mississippi Gulf Coast
Dwight Wylie, Director
Mississippi Department of Environmental Quality
- 2:30 P.M. Regional Ozone Forecasting
Michael Goldstein, Meteorologist
Memphis and Shelby County Health Department
- 2:45 P.M. Truck Idling Emissions Reductions
Becky Keogh, Deputy Director
Arkansas Department of Environmental Quality
- 3:00 P.M. Refreshment Break
- 3:15 P.M. Houston-Galveston Public Private Sector Cooperative Activities
Doug Deason, Exxon Mobil Chemical Company
- 3:30 P.M. Ozone Control Strategy Options Winnowing Process
to Facilitators: *Bob Rogers*, Program Administrative Specialist--
Executive, Pollution Control Section
5:00 P.M. *Denis Fritchie*, Supervisor
Planning Branch, Pollution Control Section
Carter Gray, Director, Regional Services
Shelby County Government

EARLY ACTION COMPACT (Implement by May 1, 2005)

8-HOUR OZONE CONTROL STRATEGY OPTIONS **MEMPHIS METROPOLITAN STATISTICAL AREA**

x = Minimal reductions expected
X = Larger reductions expected
0 = No reductions expected

| STRATEGY | | | NO. TPD | VOC TPD | RANKING | | | | |
|-----------------|---|------|---------|---|---|--|------------------------|------------------------|-----------------|
| | | | | | POLITICAL DIFFICULTY | CITIZEN RESISTANCE | COST EFFECTIVENESS | TIME TO IMPLEMENT | OVERALL RANK |
| | | | | | 1-5 (1 is least difficult) | 1-5 (1 is least resistance) | 1-5 (1 is lowest cost) | 1-5 (1 is quickest) | 1-5 (1 is best) |
| FUEL STRATEGIES | | | | | | | | | |
| 1 | Low RVP (7.8 psi) Gasoline in Crittenden, DeSoto, Tipton and Fayette Counties (at refinery) | 0 | X | | | | | | |
| 2 | Stage I Vapor Recovery in Crittenden, DeSoto, Tipton and Fayette Counties (at fueling stations) | 0 | X | | | | \$400/tank estimated | | |
| 3 | Low Sulfur Gasoline by May 1, 2005 (at refinery) | X | 0 | | | | | | |
| 4 | Stage II Vapor Recovery (at fueling stations) | 0 | x | Duplicative of onboard vapor recovery on newer vehicles | Duplicative of onboard vapor recovery on newer vehicles | \$1,200/Ton VOCs estimated | | | |
| 5 | Federal Reformulated Gas (Opt-In) | X | X | Governor must apply under Clean Air Act Section 211(k)(6) for classified nonattainment area | | | | Long term SIP strategy | |
| 6 | Cetane Additive (at diesel terminal distribution point) | X | 0 | Pilot program summer 2004 in East Tennessee; determination of credit to local area issue | | \$4,000/Ton NOx estimated minimum; infrastructure needed for fuel mixing | | | |
| 7 | BioDiesel (plant oil added at diesel terminal distribution point) | Adds | x | Determination of credit to local area issue | | Per gallon adds \$0.30 to \$2.00; infrastructure needed for fuel mixing | | | |
| 8 | BioDiesel and fuelborne catalyst (plant oil and catalyst added at diesel terminal distribution point) | x | x | Determination of credit to local area issue | | Infrastructure needed for fuel mixing | | | |
| 9 | Diesel Fuel Emulsions (water based fuel additive at diesel terminal distribution point) | x | 0 | Determination of credit to local area issue | Industry resistance high because it reduces horsepower and fuel economy | Per gallon adds \$0.35 to \$3.00; infrastructure needed for fuel mixing | | | |

NOTE: Mandatory local fuel strategies require an EPA Fuel Waiver under Clean Air Act Section 211(c)(4)(B). EPA can grant waiver only "if no other measures that would bring about timely attainment exist, or if other measures exist and are technically possible to implement but are unreasonable or impracticable." Time to obtain Fuel Waiver is lengthy. Voluntary local fuel strategies do not need waiver, but only 3% of SIP target reductions can be voluntary [may be more for EAC purposes].

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**8-HOUR OZONE CONTROL STRATEGY OPTIONS
MEMPHIS METROPOLITAN STATISTICAL AREA**

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| | | | RANKING | | | | |
|---|------------|------------|--|--|---|--|-----------------|
| STRATEGY | NOx TPD | VOC TPD | POLITICAL DIFFICULTY | CITIZEN RESISTANCE | COST EFFECTIVENESS | TIME TO IMPLEMENT | OVERALL RANK |
| | | | 1-5 (1 is least difficult) | 1-5 (1 is least resistance) | 1-5 (1 is lowest cost) | 1-5 (1 is quickest) | 1-5 (1 is best) |
| STATIONARY SOURCE STRATEGIES | | | | | | | |
| 10 Industrial Source NOx controls not addressed by NOx SIP Call (7 in Shelby County total (3108 TPD Actuals); 1 in Tipton (1730 TPD Potentials); 1 in Haywood (2077 TPD Potentials) | X | 0 | | | \$2,000 to \$4,000/Ton NOx estimated | | |
| 11 Wet injection at combustion turbines at TVA Allen Steam Plant (6 large turbines) | X | 0 | | Demineralization of water necessary; one wet injecton system per turbine | | | |
| 12 NOx RACT Small, Medium, and Large Sources | X | 0 | Ordinance revisions needed | | | Long term SIP strategy for new/replacement sources | |
| 13 VOC RACT in Crittenden, DeSoto, Tipton and Fayette Counties Medium and Large Sources | 0 | X | Ordinances needed | | Varies by rule | | |
| 14 DriveMax programmable computer installed on diesel engines for tub grinders at mulching operations (Supplier: Mirencro) | X | x | | | | | |
| 15 Electric or propane-fueled forklifts | x | 0 | | | | | |
| VOLUNTARY MEASURES | | | | | | | |
| 16 Ozone Alert Program: Drive 55 mph | x | x | Determination of emission credit issue | | | | |
| 17 Ozone Alert Program + Financial Incentives | x | x | Determination of emission credit issue | | | | |
| 18 Gas cap for vehicles giveaway | 0 | x | Determination of emission credit issue | | | | |
| BUY BACK PROGRAMS | | | | | | | |
| 19 Lawn Mower Buy Back Program (rebate for purchase of electric) | x | X | | | \$60 rebate per purchase; \$13,333/Ton of NOx | | |
| 20 Heavy-Duty Motor Vehicle Purchase or Lease Incentive Program (>10,000 lbs) | x | x | | | | | |

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MEMPHIS METROPOLITAN STATISTICAL AREA**

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| STRATEGY | NO. TPD | VOC TPD | POLITICAL DIFFICULTY | CITIZEN RESISTANCE | COST EFFECTIVENESS | TIME TO IMPLEMENT | OVERALL RANK |
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| FLEET STRATEGIES | | | | | | | |
| 21 | Fleet ULEV Program (Buses, taxi, private, utility, airport ground) | x | x | | | | |
| 22 | Fleet SULEV (Buses, taxi, private, utility, airport ground) | x | x | | | | |
| VEHICLE INSPECTION AND MAINTENANCE (I/M) STRATEGIES | | | | | | | |
| 23 | Basic I/M w/gas cap | 0 | x | | | | |
| 24 | I/M tailpipe ASM/IM240 | x | x | | | | |
| 25 | ASM/IM240 w/gas cap (5% waiver rate) | x | x | | \$13,848/Ton of VOCs \$20,937/Ton of NOx | | |
| 26 | On-Board Diagnostics II | x | x | | | | |
| 27 | Remote Sensing outside City of Memphis limits | x | x | Germentown videocam already installed to identify traffic violations | | | |
| NOTE: Basic I/M now required in City of Memphis only (originally required for Carbon Monoxide nonattainment area within city limits only) | | | | | | | |
| ENERGY EFFICIENCY STRATEGIES | | | | | | | |
| 28 | Renewable Electricity Incentives TVA or MLGW Energy Audits of commercial buildings | x | x | Smart Growth | | | |
| 29 | Adopt International Energy Conservation Code and energy efficiency chapter of International Residential Code into Local Building Codes | x | x | Smart Growth; Ordinance revisions necessary | | Longterm SIP strategy | |
| TRAVEL BEHAVIOR STRATEGIES | | | | | | | |
| 30 | Lower Speed Limit from 70 to 55 mph for Heavy Duty (18-wheel) Trucks during Ozone Season and increase enforcement | X | x | Safety benefits; Act of State legislature required? TDOT approval only? | Increased fuel efficiency | | |
| 31 | Intelligent Transportation System (electronic signs on roadway provide real time info to drivers) | x | x | Already funded; to be completed by 2006; determination of emissions reduction credit issue | | | |

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| TRAVEL BEHAVIOR STRATEGIES (CONTINUED) | | | | | | | |
| 32 Use TDOT "enhancements" grants to link greenways/bikeways/bike racks/pedestrian walkways | x | x | Smart Growth; MPO ranking during grant cycle | | | 3-year Transportation Improvement Plan timeframe | |
| MOTOR VEHICLE STRATEGIES | | | | | | | |
| 33 NOx Flash (recalibrate diesel engine fleets to lowest NOx emission rate) [Completed at FedEx fleet; claim NOx reduction credits for EAC] | X | 0 | EPA Consent Order requires some manufacturers to do | | \$1,000/Ton of NOx | | |
| 34 Diesel Retrofit: On-Road (Catalytic Converter with low sulfur diesel fuel) | X | x | | | CMAQ eligible; Toyota Settlement eligible; \$4,000 to \$12,000/Ton of NOx | Low sulfur diesel available 1/1/06 | |
| 35 Diesel Retrofit: Off-Road (Catalytic Converter with low sulfur diesel fuel) | X | x | | | CMAQ eligible; Toyota Settlement eligible | Low sulfur diesel available 1/1/06 | |
| 36 Local Government contract Preference for Bidders with Retrofitted Diesel Engines | X | 0 | | | | Low sulfur diesel available 1/1/06 | |
| 37 DriverMax programmable computer installed on buses (Supplier: Mirencos; already installed on MATA Paratransit buses; claim NOx reduction credits for EAC) | X | 0 | MATA budget cycle | | CMAQ eligible? | | |
| 38 Liquefied Natural Gas for Railroad Switch Engines | X | x | | | \$1,000 Ton/NOx at a minimum | | |
| 39 Truck idling emissions reduction through truckstop electrification | X | x | Pilot at one truckstop in West Memphis, AR; CMAQ project underway in Knoxville (Supplier: Idleair, Inc.) | | CMAQ eligible; \$1 million for installation at 100 parking spaces in Knoxville project; CMAQ eligible operating expense to truck driver for per night charge for up to 3 years; \$1,660/Ton of NOx | | |

x = Minimal reductions expected
X = Larger reductions expected
0 = No reductions expected

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|--------------|-------------------------|---|
| | Section 132 of IRS Code | Section 1072 of Taxpayer Relief Act of 1997 |
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WEBSITES

[www.epa.gov/otaq/retrofit Diesel retrofit information](http://www.epa.gov/otaq/retrofit/Diesel%20retrofit%20information)
www.epa.gov/otaq/transp/traqmodl/htm "Summary Review of Costs and Emissions Information for 24 Congestion Mitigation and Air Quality Improvement Program Projects"
www.epa.gov/altfuels/altfuels/htm Alternative fuels information
www.epa.gov/transp/comchoice EPA Commuter Choice Program information
www.epa.gov/air/recipes/cashout.html Employer/municipal cash value for parking spaces information
www.ccap.org Center for Clean Air Policy (bipartisan State Governors) site for energy efficiency land use planning and commute alternatives
www.arb.ca.gov Super Ultra Low Emission Vehicles information
www.dieselforum.org Diesel technology alternatives for air pollution reduction
www.4secat.com/where.html Select "Heavy Duty Diesel Emissions Calculator"
www.mirencoco.com Information about DriveMax for buses and other diesel engines
www.lubrizol.com BioDiesel and fuelborne catalyst information